

What is CLAIMED IS:
~~Patent claims~~

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1. Optical arrangement for the spectral fanning out of a light beam (1), preferably in the detection beam path of a confocal microscope, in particular for the subsequent splitting of the fanned out beam (2) out of its dispersion plane (3) and for the detection of the split spectral range (4), whereby the incoming light beam (1) is focused on a pinhole (7),
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- wherein** the pinhole (7) has a polygonal passageway (8).
2. Arrangement according to claim 1, **wherein** the polygonal passageway (8) is symmetrically configured.
3. Arrangement according to claim 1 or 2, **wherein** the passageway (8) is configured as triangular.
4. Arrangement according to claim 1 or 2, **wherein** the passageway (8) is configured with four corners.
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5. Arrangement according to claim 4, **wherein** the passageway (8) is configured as rectangular.
6. Arrangement according to one of the claims 1 through 5, **wherein** a preferably variable screen is arranged in front of and/or behind the pinhole (7).
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7. Arrangement according to one of the claims 1 through 6, **wherein** focusing optics (9 and 11) and dispersion means are situated downstream from the pinhole (7).
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8. Arrangement according to claim 7, **wherein** the dispersion means comprise a prism (10).

9. Arrangement according to one of the claims 1 through 8, **wherein** focusing optics (9 and 11) are arranged in front of and/or behind the dispersion means.

5 10. Arrangement according to one of the claim 9, **wherein** the focusing optics (9 and 11) comprise lens arrangements.

10 11. Arrangement according to one of the claim 10, **wherein** the light beam (1) can be focused into a gap/detector arrangement (12) by means of the focusing optics (9 and 11).

12. Arrangement according to one of the claim 11, **wherein** the gap/detector arrangement (12) in the focusing plane or dispersion plane (3) of the fanned out beam (2) comprises color selection gaps or detection gaps (6) that are arranged and aligned such that diffraction phenomena can be screened out at the detection gap (6).

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